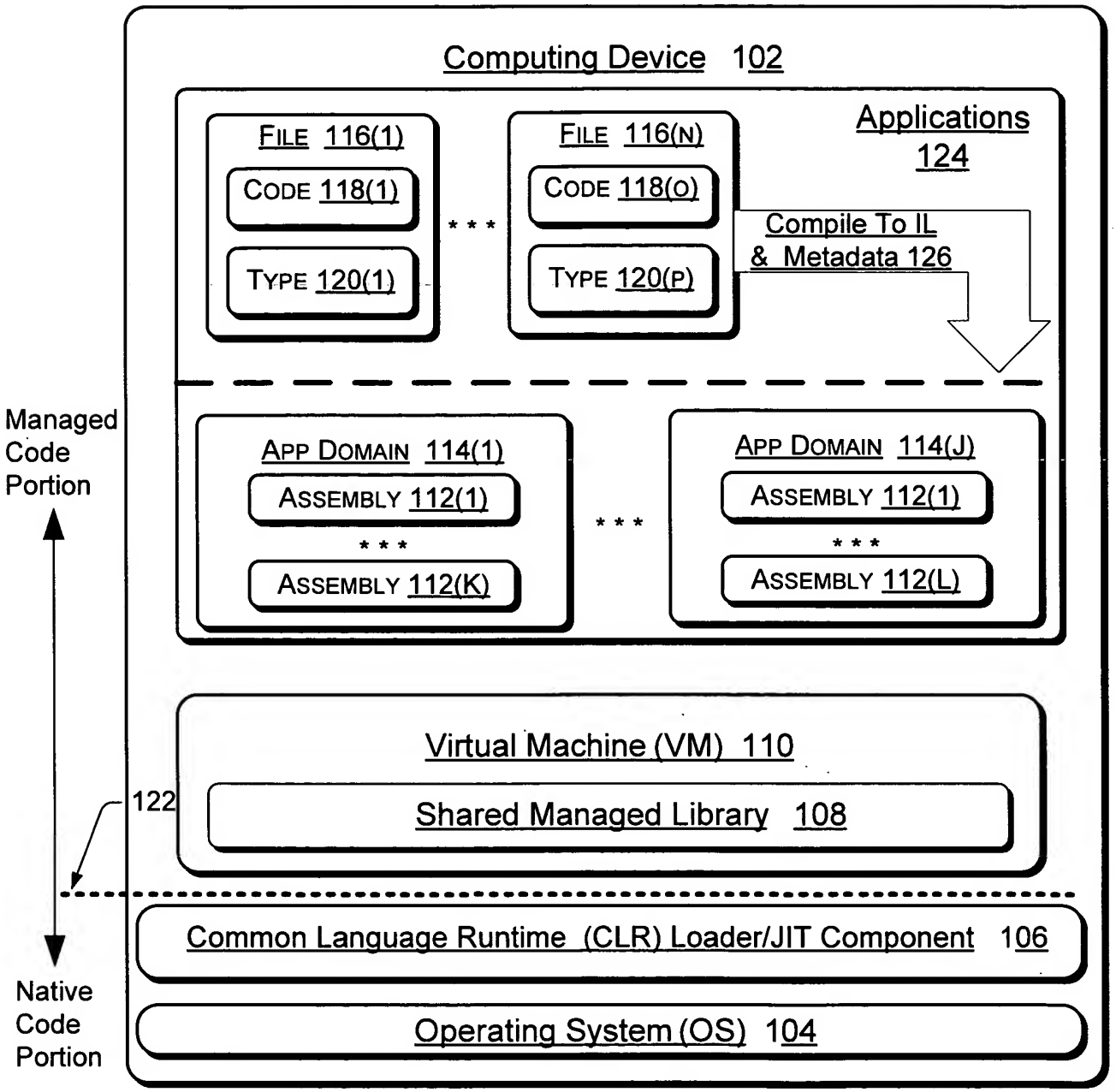

Computing Device 102
Applications 124
FILE 116(1)
CODE 118(1)
TYPE 120(1)
FILE 116(N)
CODE 118(O)
TYPE 120(P)
Compile To IL & Metadata 126
APP DOMAIN 114(1)
ASSEMBLY 112(1)
ASSEMBLY 112(K)
APP DOMAIN 114(J)
ASSEMBLY 112(1)
ASSEMBLY 112(L)
Managed Code Portion
Virtual Machine (VM) 110
Shared Managed Library 108
122
Common Language Runtime (CLR) Loader/JIT Component 106
Operating System (OS) 104
Native Code Portion

Figure 1

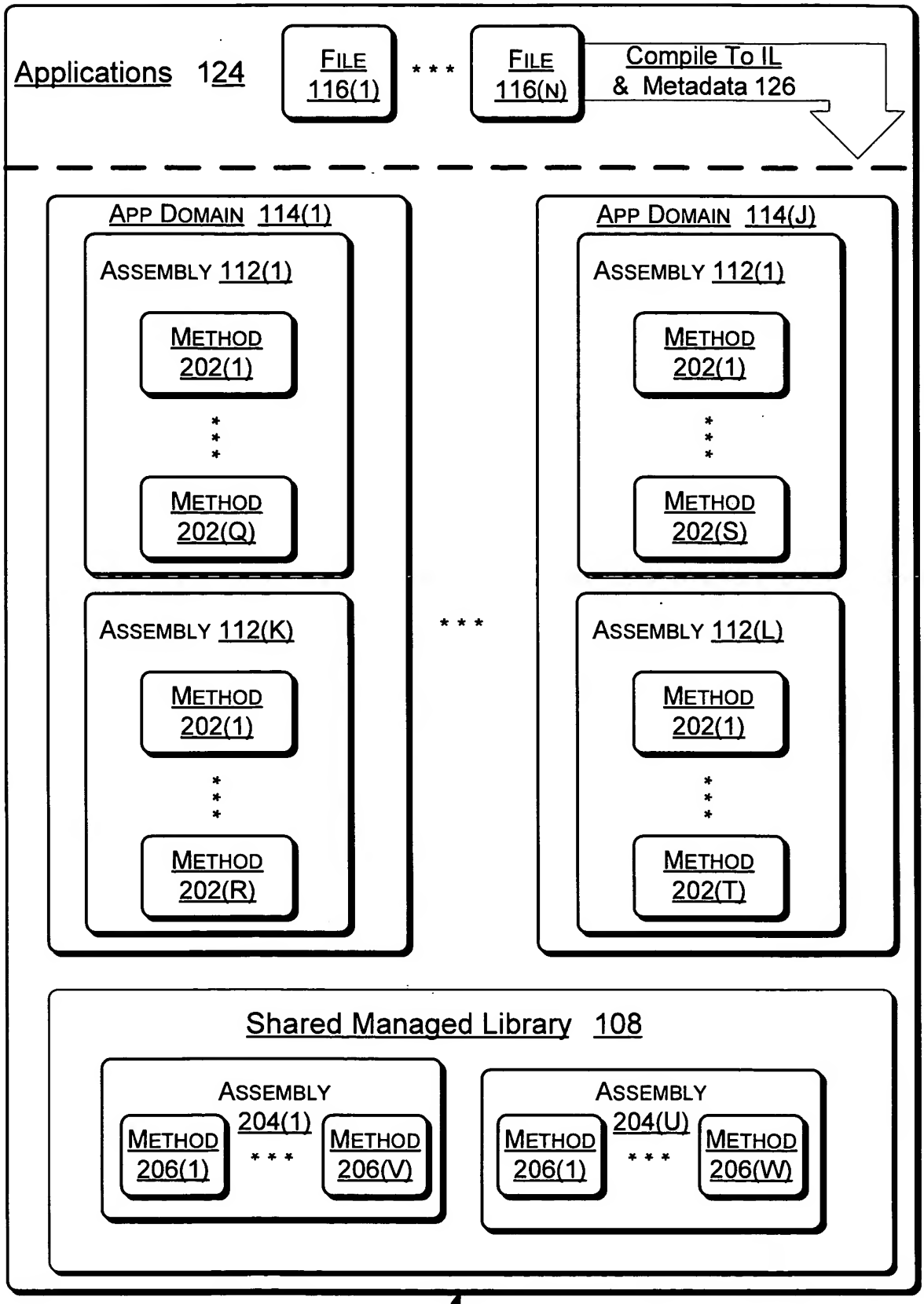

Applications 124
FILE 116(1)
FILE 116(N)
Compile To IL & Metadata 126
APP DOMAIN 114(1)
ASSEMBLY 112(1)
METHOD 202(1)
METHOD 202(Q)
ASSEMBLY 112(K)
METHOD 202(1)
METHOD 202(R)
APP DOMAIN 114(J)
ASSEMBLY 112(1)
METHOD 202(1)
METHOD 202(S)
ASSEMBLY 112(L)
METHOD 202(1)
METHOD 202(T)
Shared Managed Library 108
ASSEMBLY 204(1)
METHOD 206(1)
METHOD 206(V)
ASSEMBLY 204(U)
METHOD 206(1)
METHOD 206(W)
Managed Code Portion

Figure 2

Possible Execution Paths of Assemblies 1-10

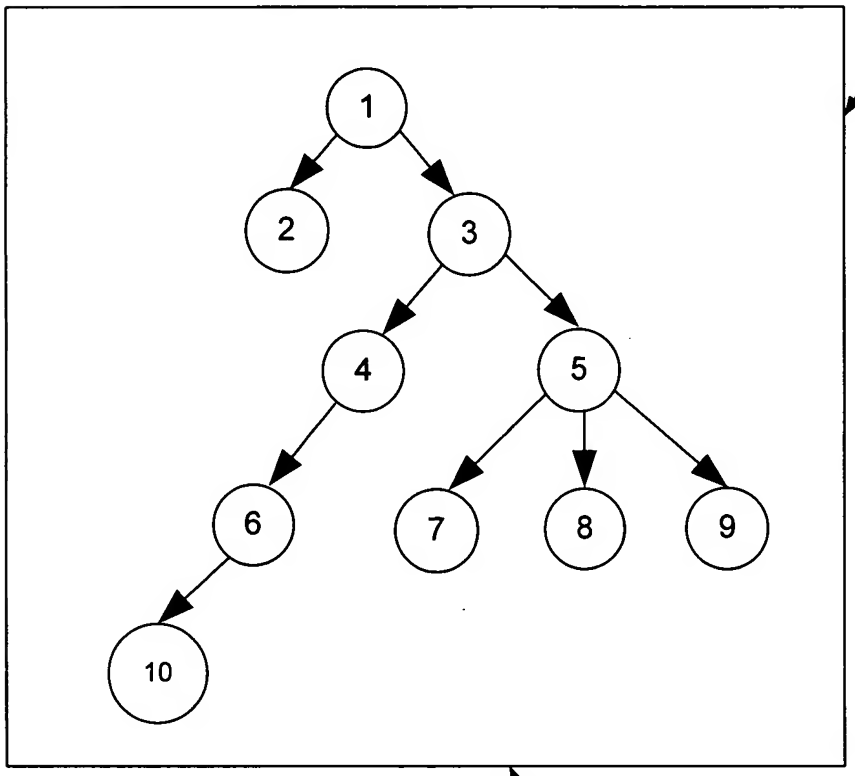
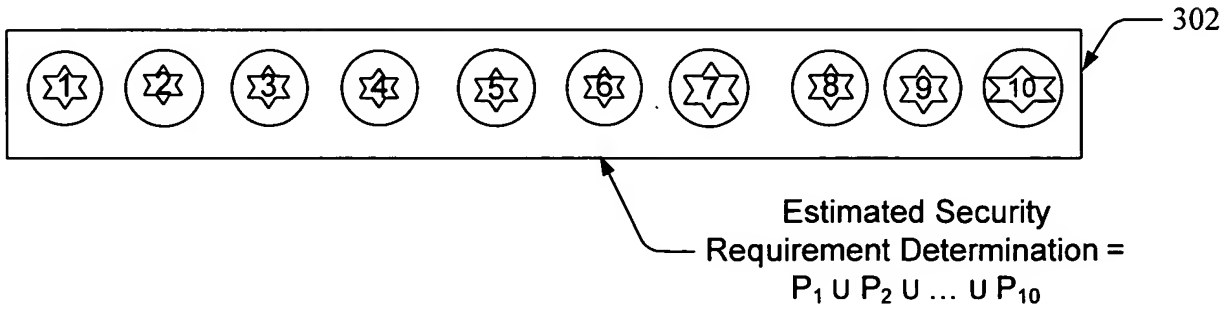


Figure 3a

Figure 3b

Method Entry Points 1-10 in A One (1) Shared Managed Library 108



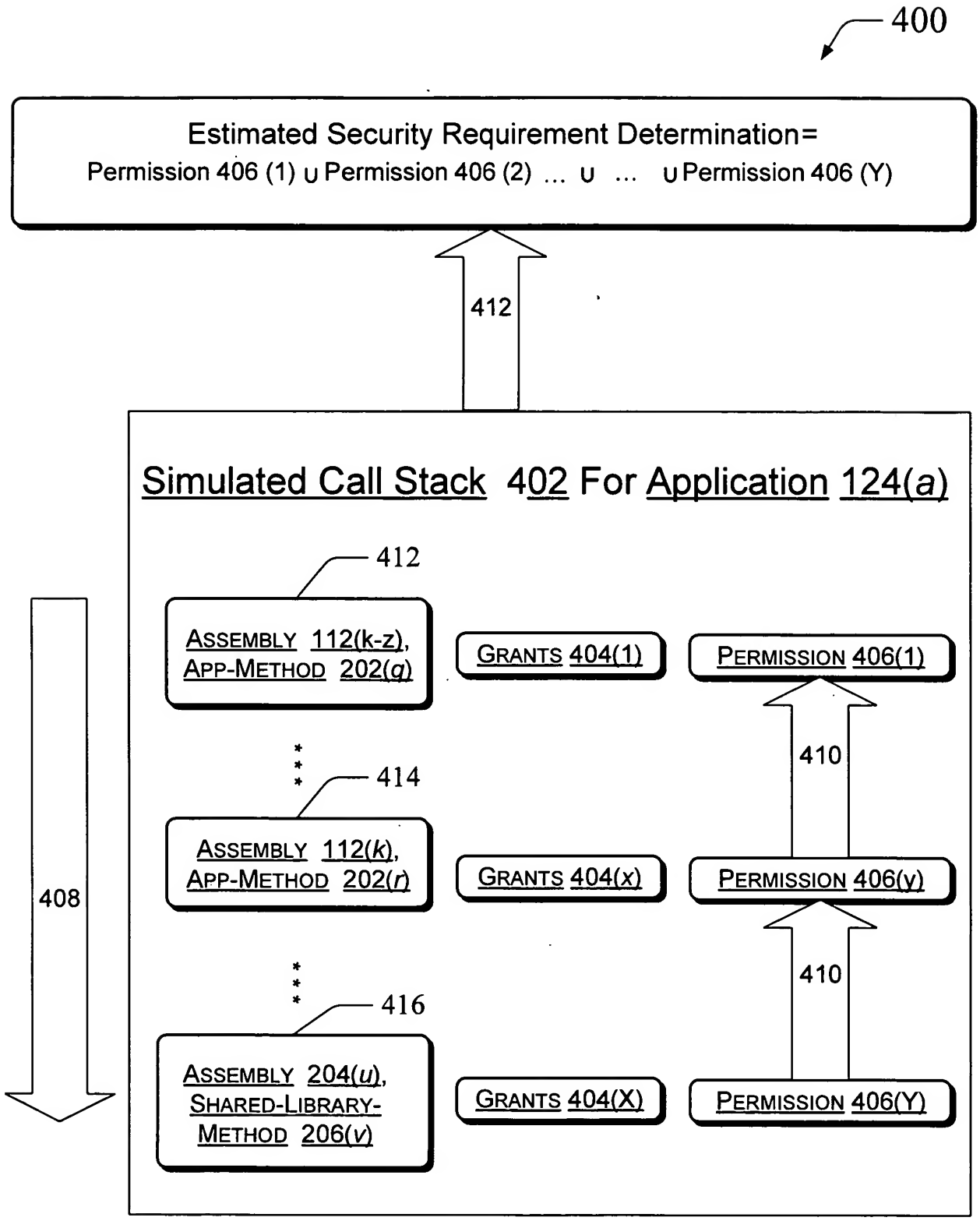

400
Estimated Security Requirement Determination=
Permission 406 (1) ∪ Permission 406 (2) ... ∪ ... ∪ Permission 406 (Y)
412
Simulated Call Stack 402 For Application 124(a)
412
Assembly 112(k-z), App-Method 202(q)
Grants 404(1)
Permission 406(1)
410
414
Assembly 112(k), App-Method 202(r)
Grants 404(x)
Permission 406(y)
410
408
416
Assembly 204(u), Shared-Library-Method 206(v)
Grants 404(X)
Permission 406(Y)

Figure 4

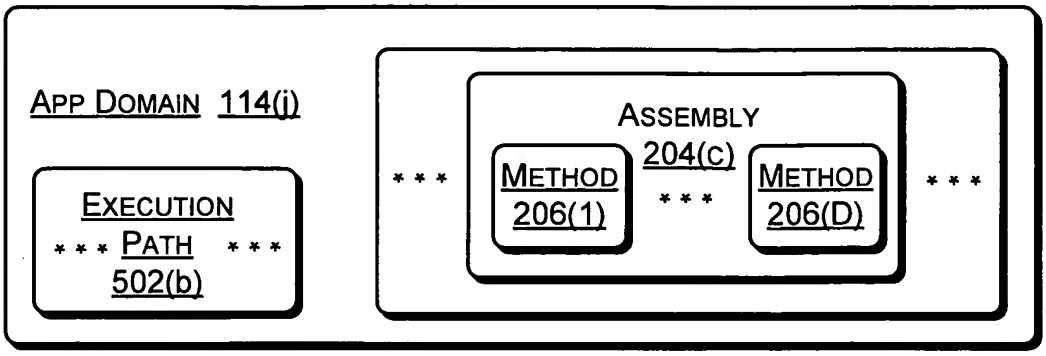


Fig. 5a

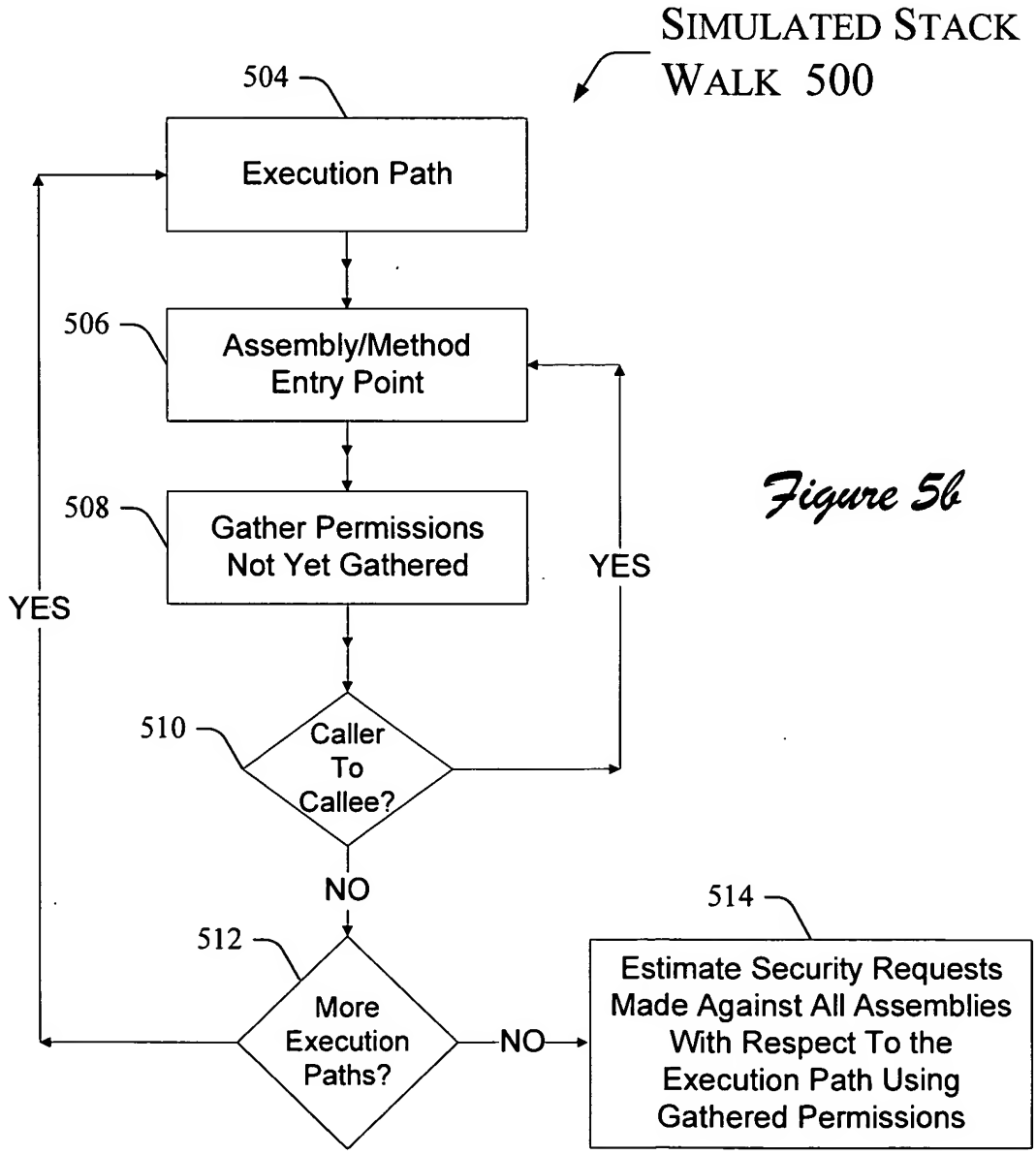
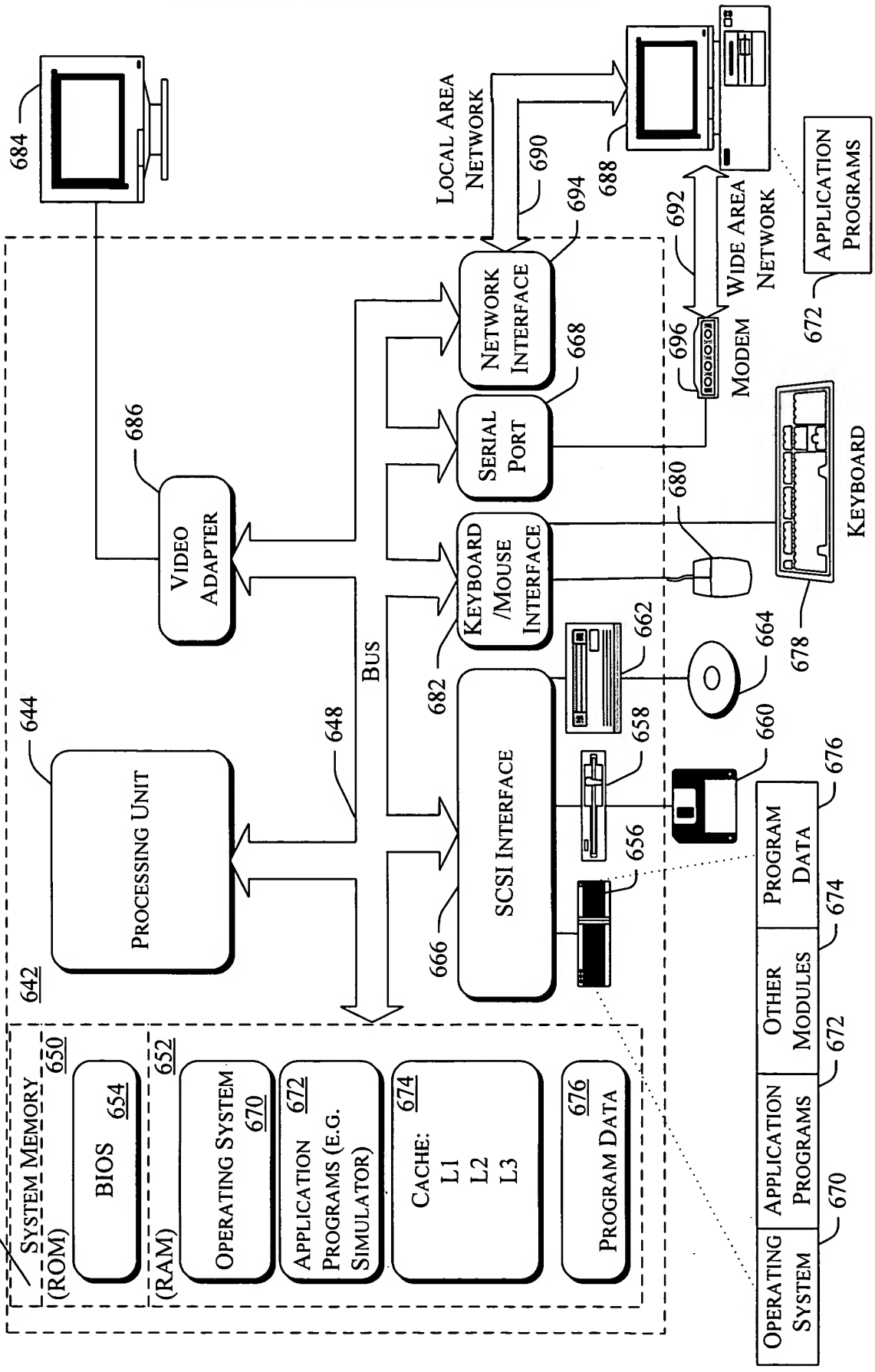


Figure 5b

Figure 6


646
SYSTEM MEMORY
(ROM) 650
BIOS 654
(RAM) 652
OPERATING SYSTEM 670
APPLICATION PROGRAMS (E.G. SIMULATOR) 672
CACHE: L1 L2 L3 674
PROGRAM DATA 676
642
PROCESSING UNIT
644
648
BUS
686
VIDEO ADAPTER
682
KEYBOARD /MOUSE INTERFACE
680
SERIAL PORT
668
NETWORK INTERFACE
694
684
LOCAL AREA NETWORK
690
688
692
WIDE AREA NETWORK
MODEM
696
672
APPLICATION PROGRAMS
KEYBOARD
678
662
664
658
660
656
666
OPERATING SYSTEM
670
APPLICATION PROGRAMS
672
OTHER MODULES
674
PROGRAM DATA
676